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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/980,310	11/30/2001	Nobuharu Ishikawa	058856-0108	9780

22428 7590 08/27/2003

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WASHINGTON, DC 20007

EXAMINER

BARTH, VINCENT P

ART UNIT	PAPER NUMBER
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2877

DATE MAILED: 08/27/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application N .

09/980,310

Applicant(s)

ISHIKAWA ET AL.

Examiner

Vincent P. Barth

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 November 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-31 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-24 is/are allowed.
- 6) ☒ Claim(s) 25-31 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☒ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claim 28 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

3. Referring to Claim 28, the language therein is that, "the light axis refracting mechanism ... move in the same direction on the light receiving surface ... for a given change in the measurement displacement." The limitation set forth above is not clear, in that it not apparent to the Examiner what features in the device are being described. This may be resolvable by Applicants pointing out in the response to the instant Office Action the precise portion(s) of the instant Specification and/or Drawings which correspond to this limitation. However, the claim has been discussed below as it may best be understood.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 25-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Myoshi, U.S. Pat. No. 4,897,536 (30 Jan. 1990), in view of Mori, et al., U.S. Pat. No. 6,215,959 (10 Apr. 2001), further in view of Yamamoto, U.S. Pat. No. 5,583,602 (10 Dec. 1996).

6. Referring to Claims 25 and 26, Miyoshi discloses a displacement sensor in which a measurement light 30 in the form of a He-Ne laser is directed a surface S, which is then directed to the 2D imaging device 50a in the form of a diode array, which is then further processed by a calculation unit to determine displacement (see Fig. 7). Miyoshi does not explicitly disclose that it is combined or should be combined with any other imaging apparatus or device elements.

However, consumer grade and professional cameras have incorporated range finding devices for determining the range to a surface for the purposes of focusing, following which an image of the surface may be captured at an angle oblique to the direction of the range finding device element. Mori discloses a camera having an auto-focus function independent of the photographing optical system, in which the range finding system is disposed obliquely with respect to the imaging lens (see Fig. 3). The imaging portion of Mori would capture an image of the surface surrounding the point at which the range finding element determined the distance to the surface for focusing.

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Miyoshi and Mori are analogous art, since they are from a similar problem solving area, in that each involves a system in which an imaging system first determines the range to the object surface with a measuring beam. See Medtronic, Inc. v. Cardiac Pacemakers, 721 F.2d 1563, 1572-1573, 220 USPQ 97, 103-104 (Fed. Cir., 1983). The motivation for combining the references would have been to incorporate the displacement sensing features into the already disclosed analogous range finding mechanism into an auto-focus camera. Accordingly, it would have been obvious to those skilled in the art to combine the references, at the time of the invention, in order to obtain such the benefit. Mori does not explicitly disclose that the 2D image is captured photoelectrically (i.e. via a digital means such as a CCD), however such digital cameras have been known, for example Yamamoto discloses an auto-focus camera which would photoelectrically capture a 2D image with a CCD imaging device 301 (Fig. 32; col. 2, ln. 22).

Miyoshi, Mori and Yamamoto are analogous art, since they are from a similar problem solving area, in that each involves a system in which an imaging system first determines the range to the object surface with a measuring beam. The motivation for combining the references would have been to incorporate the displacement sensing features into the already disclosed analogous range finding mechanism into an auto-focus camera, wherein the auto-focus camera captures the image digitally.

7. Referring to Claims 27 and 28, Mori discloses an alternative embodiment in which the imaging lenses may be disposed in a manner symmetrical to each other, and is described as a bilateral reception optical system (Fig. 6; and col. 11, ln. 52, et seq.).

8. Referring to Claim 29, the combination of Miyoshi and Mori does not explicitly disclose that shutter means is disposed so as to close off the light path reaching the 2D device. However,

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Miyoshi does explicitly disclose a slit 46a on the plate means 44, upon which a shutter could be placed if those practicing the invention found it desirable (see Fig. 7). Accordingly, it would have been obvious design choice to those skilled in the art at the time of the invention to modify the slit 64a in Miyoshi in order to obtain the invention as claimed.

9. Referring to Claims 30 and 31, the combination of Miyoshi and Mori does not explicitly disclose the use of filters to inhibit the passage of light as desired. However, the use of filters for such purpose has been well known in the art. See MPEP §2144.03. Accordingly, it would have been obvious to those skilled in the art at the time of the invention to include such element in the combination set forth above.

Allowable Subject Matter

10. Claims 1-24 are allowable, since the prior art references, either considered alone or in combination, do not disclose or render obvious the limitations set forth therein.

11. Referring to Claim 1, the prior art references, either considered alone or in combination, do not disclose or render obvious the limitations whereby a controller operates under a measurement mode, in which a measurement light is imaged at an appropriate brightness with the surrounding part substantially darker than the appropriate brightness, and an observation mode as set forth in the claim, in combination with the remaining limitations in the claim.

Claims 2-24 are allowable based on their dependency upon the claim from which each is dependent.

Comments

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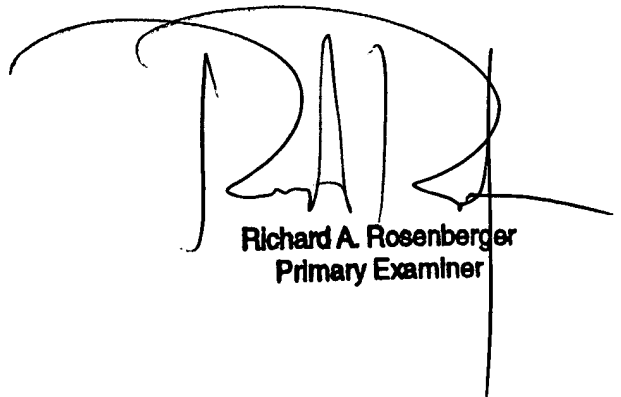
12. The Claims contain a minor omission, in which a phrase such as "We Claim:" should precede Claim 1. See MPEP §608.01(m). This matter may be easily remedied in Applicants' response to the instant Office Action.

13. The Specification appears to have a minor typographical error on page 3 at line 6, in which Figs. 43 and 44 were likely intended, rather than 42 and 44 as it now appears. This matter is easily corrected in Applicants' response to the instant Office Action if this was indeed merely a typographical error.

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CONCLUSION

14. Applicants' Claims 25-31 are rejected based on the reasons set forth above.
15. Applicants' Claims 1-24 are allowable based on the reasons set forth above.
16. Any inquiries concerning this communication from the Examiner should be directed to Vincent P. Barth, whose telephone number is 703-605-0750, and who may be ordinarily reached from 9:00 a.m. to 5:30 p.m., Monday through Friday. The fax number for the group before final actions is 703-872-9318.
17. If attempts to reach the Examiner prove unsuccessful, the Examiner's supervisor is Frank G. Font, who may be reached at 703-308-4881.
18. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1782.



Richard A. Rosenberger
Primary Examiner